West Ashton Church of England Primary School

SCIENCE POLICY

Dated: February 2022

Date of review: February 2024

'You will shine among them like stars in the sky.'

Philippians 2:15 (NIVUK)

Introduction

At West Ashton Primary School, science stimulates and excites pupil's curiosity about natural phenomena and events in the world around them.

Pupils understand how major scientific ideas contribute toward technological change – impacting on industry, medicine, business and improving quality of life. They learn to question and discuss science based issues that may affect their own lives, the directions of society and the future of the world, encouraging and supporting the development of Science capital.

This knowledge base of science has a practical application to everyday experiences and is therefore important for pupil's social development. By working scientifically, through tailored investigations involving planning, testing, recording and analysing results, students come to appreciate the nature of the learning process.

All teachers, design and plan activities providing opportunities for students to display and to develop and apply their creative and imaginative capacities in Science. These activities enable children to experience an ongoing sense of success in their teaching and learning which are transferable to other subjects.

Intent:

Science teaching at West Ashton Primary School aims to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically, to gain an understanding of scientific processes and also an consideration of the uses and implications of Science, today and for the future.

Scientific enquiry skills are embedded in each topic the children study and these topics are revisited and developed throughout their time at school. Topics, such as Plants, are taught in Key Stage One and studied again in further detail throughout Key Stage Two. This model allows children to build upon their prior knowledge and increases their enthusiasm for the topics whilst embedding this procedural knowledge into the long-term memory.

All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions. Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged. Concepts taught should be reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

The National Curriculum for Science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines.
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
- make decisions about the uses and values of scientific work and achievements
- develop an understanding and respect for the natural world
- question, hypothesise, test and discover for themselves about our world.
- develop the skills required to investigate the world around them.

Implementation:

Teachers use a range of schemes and resources to plan for Science, ensuring we deliver the full range of the Primary National Curriculum.

Differentiation is achieved through careful planning and organisation and enables all students to engage in the curriculum by providing learning tasks and activities that are tailored to their needs and abilities.

West Ashton Primary School looks to integrate practical science in almost every lesson, making learning engaging and fun. Children should be encouraged to predict, hypothesise, collect evidence, analyse and question the results they gather and evaluate what they have learnt.

In EYFS, science is taught according to the Curriculum guidance for the Foundation Stage. It is incorporated in the Early Learning Goal 'Understanding the World' in which pupils develop the crucial knowledge, skills and understanding that helps them make sense of their world. As with other learning in the Foundation Stage, children will mainly learn about science through continuous provision. Activities such as which objects float/sink during water play, will help children to develop important skills such as observation, prediction and critical thinking. The EYFS aims to equip the children with knowledge and skills in preparation for the National Curriculum at Key Stage 1.

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking simple questions and recognising that they can be answered in different ways

- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions.

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs

- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

Recording children's work

In EYFS, children's outcomes are recorded through picture evidence within topic floor books and discussions are built upon children's understanding to support the monitoring of pupil's learning successes. Children have science books in KS1/2 in which they record their learning. These will move up with children to support building on previously learnt skills and concepts as well as the development of chronological awareness.

Equality

Positive attitudes towards science are encouraged, so that all pupils, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with the subject.